



User Guide for the 2011 Participant Use Data File

American College of Surgeons
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Contents

| Section | Page |
|---|------|
| 1. Introduction | 1 |
| 2. Data Request Process | 1 |
| 3. File Description | 2 |
| 4. Data Collection Background and Data Quality | 2 |
| 5. Sampling Process and Case Inclusion/Exclusion Criteria | 3 |
| 6. Data Limitations | 6 |
| 7. Contact Information | 7 |
| 8. Frequently Asked Questions | 7 |
| 9. Data Variables and Definitions | 11 |

1. Introduction

This document is designed to accompany the 2011 Participant Use Data File (PUF) available for download on the American College of Surgeons National Surgical Quality Improvement Program (ACS NSQIP) website (www.acsnsqip.org). The sections contained herein will provide the user with information on how to request the PUF, the contents of the data files, the data collection background, the inclusion and exclusion criteria for cases and hospitals, the data limitations, and the data point definitions and descriptions.

This user guide applies specifically to the 2011 PUF. Hospitals utilizing the PUF from a different year should refer to the user guide specifically tailored to that particular data set.

2. Data Request Process

An individual who has an official appointment at a fully enrolled site and wants to obtain a copy of the PUF can do so by visiting www.acsnsqip.org and following the steps listed below:

1. The requestor can select the “Resources” and “ACS NSQIP Data” tab that appears on the far left side of the www.acsnsqip.org homepage.
2. Following a brief introduction, the requestor will access the Participant Use Data File Data Use Agreement. This is a 3-page document that implements the data protections of the Health Insurance Portability and Accountability Act of 1996 (HIPAA) and the ACS NSQIP Hospital Participation Agreement. Delivery of the PUF is contingent on agreement to the terms and conditions specified within the Data Use Agreement.
3. Requestors will be required to complete a brief online form to provide ACS with basic information about themselves, including the participating hospital in which they are currently employed and in what capacity, as well as how the requestor plans on using the PUF data.
4. ACS NSQIP staff will review the request in a timely manner. Requestors and program contacts at participating sites may be contacted at this time to confirm the requestor’s affiliation with the hospital.
5. Following receipt and confirmation of the information submitted, an email will be sent to the requestor containing the URL visit to download the data. The web link will be active from the time of the email for 10 full days (240 hours).
6. The file will be available in 3 different formats (Text, SPSS, SAS) and depending on the connection speed should take between 5 and 30 minutes to download.

7. Once the file has been downloaded, it will need to be unzipped (multiple free zipping programs are available online) prior to importing it into a statistical software package. Excel cannot handle this data file.
8. The requestor may be contacted to confirm receipt of the data file and allow for feedback on the delivery mechanism, data points contained, and data file format.

3. File Description

Each summer/fall a PUF will be made available for the previous calendar year's data. The PUF is available in 1 of 3 different formats - Text, SAS, and SPSS. In 2008, we provided an additional file that contains SAS and SPSS codes for constructing RACE variable that was available in previous years. The 2011 file contains 252 variables for each case, and a variable-by-variable description is provided starting on page 11.

A brief description of the different formats follows:

| File Name | Type | Uncompressed File Size | Description |
|--------------------------|------------------------|------------------------|---|
| ACS_NSQIP_PUF11.txt | tab delimited TXT file | 618 MB | Contains 252 HIPAA compliant variables on 442,149 cases submitted from 315 sites in 2011. |
| ACS_NSQIP_PUF11.sas7bdat | SAS 9.2 data file | 3.5 GB | Same information as stated above in SAS data format. |
| ACS_NSQIP_PUF11.sav | SPSS 16.0 data file | 2.6 GB | Same information as stated above in SPSS data format. |
| Construct_RACE_Codes.txt | Notepad file | 3KB | Contains SAS and SPSS codes for constructing RACE variable that was available in 2005, 2006 and 2007. |

4. Data Collection Background and Data Quality

The ACS NSQIP collects data on 135 variables, including preoperative risk factors, intraoperative variables, and 30-day postoperative mortality and morbidity outcomes for patients undergoing major surgical procedures in both the inpatient and outpatient setting. A site's Surgical Clinical Reviewer (SCR) captures these data using a variety of methods including medical chart abstraction.

Required data variables are entered via web-based data collection to the ACS NSQIP website. Portions of the data may be automatically populated by a software program that was developed to extract data from the participating hospital's existing information systems. Requestors should contact the SCR(s) at their hospital for detailed information on how the hospital collects its ACS NSQIP data.

To ensure the data collected are of the highest quality, the ACS NSQIP has developed a host of different training mechanisms for the SCRs and conducts an Inter-Rater Reliability (IRR) Audit of selected participating sites. In addition to an initial web-based training program, the ACS NSQIP requires SCRs to complete a set of 7 web-based training modules. The modules focus on the program, processes, and analysis; preoperative, intraoperative, and postoperative definitions; and case studies. These modules are complemented by a growing online decision support system that ensures the SCRs have the knowledge and resources available to collect high-quality data.

The IRR Audit is a fundamental tool of ACS NSQIP to assess the quality of the data collected at participating sites. The process involves the review of 20 charts, some of which are selected randomly and others selected based on criteria designed to identify potential reporting errors. For example, cases with 5 or more preoperative risk factors and no reported mortality or morbidity or cases with 2 or fewer preoperative risk factors and reported mortality or morbidity will be selected for chart review. Operating room logs are also audited to ensure correct sampling of cases.

The combined results of the audits completed to date revealed an overall disagreement rate of approximately 1.8% for all assessed program variables. The ACS NSQIP has determined that an IRR Audit disagreement rate of 5% or less is acceptable. Sites that have higher than a 5% disagreement rate are not provided a hospital odds ratio in the ACS NSQIP Semi Annual Report and may be required to undergo an additional audit following recommendations from the ACS NSQIP.

5. Sampling Process and Case Inclusion/Exclusion Criteria

Sites participating in the ACS NSQIP can do so in either the general vascular surgery module or the multispecialty module. Each of these modules includes 2 different volume categories: high or low volume. The systematic sampling process is described below.

Systematic Sampling Process

Many hospitals are not able to capture all of the surgical cases that meet the program's inclusion criteria. Therefore, a systematic sampling system called the 8-day cycle was developed to prevent bias in choosing cases for assessment. The SCR uses the 8-day cycle to select completed cases from the hospital's operative log. The schedule works as

follows: If the first cycle begins on a Monday, it continues through to the following Monday (an 8-day period of time). The next cycle begins on Tuesday and continues through to the following Tuesday, and so on. There are 46 8-day cycles in 1 year, and the program requires that data be submitted for 42 of those cycles. The process ensures that cases have an equal chance of being selected from each day of the week. Case selection and case mix are monitored by the program on a weekly basis to ensure that the sampling is appropriate.

Sampling Process for General and Vascular Only

- Hospitals with a high volume of general and vascular surgery cases capture the first 40 consecutive cases meeting the inclusion/exclusion criteria in the 8-day cycle for a total of 1,680 cases annually.
- Hospitals participating in the general and vascular low volume model are required to submit all general and vascular cases that meet the inclusion/exclusion criteria collected in the 8-day cycle. A minimum of 900 cases must be submitted annually.

Sampling Process for Multispecialty

- Hospitals participating in the multispecialty high volume model must submit approximately 20% of each of the following ten subspecialties: general, gynecologic, neurologic, orthopaedic, otolaryngologic, plastic, cardiac *, thoracic, urologic, and vascular. If 20% of the hospital's surgical volume is less than 1,680 cases annually, the hospital must submit a higher percentage of cases to reach a minimum of 1,680 cases annually.
- Hospitals participating in the multispecialty low volume model must submit the maximum number of cases across the ten subspecialties that meet the inclusion/exclusion criteria with a minimum of 900 cases submitted annually. For more information on the different methods for hospitals to participate in the ACS NSQIP, please visit the program website (www.acsnsqip.org).

Case Inclusion Criteria

The following inclusion criteria were applied to cases collected in 2011. For the current inclusion/exclusion criteria please contact the ACS NSQIP Clinical Support Team at clinicalsupport@acsnsqip.org.

The ACS NSQIP includes all Major Cases. Major Cases are defined as:

- Cases performed under the following anesthesia types:
 - General
 - Spinal
 - Epidural

- The following cases *regardless* of anesthesia type:
 - Carotid endarterectomy
 - Inguinal herniorrhaphy
 - Parathyroidectomy
 - Thyroidectomy
 - Breast lumpectomy
 - Endovascular AAA repair

Case Exclusion Criteria

The following exclusion criteria were applied to cases collected in 2011. For the current inclusion/exclusion criteria please contact the ACS NSQIP Clinical Support Team at clinicalsupport@acsnsqip.org.

- Minor Cases (all cases that are not considered Major)
- Patients under the age of 18 years
- More than 3 inguinal herniorrhaphies in an 8-day period
- More than 3 breast lumpectomies in an 8-day period
- Trauma Cases - Specifically: A patient who is admitted to the hospital with acute trauma and has a surgical procedure(s) for that trauma will be excluded. Any operation performed after the patient has been discharged from the trauma stay will be included.
- Transplant Cases - Specifically: A patient who is admitted to the hospital for a transplant and has a transplant procedure and any additional surgical procedure during the transplant hospitalization will be excluded. Any operation performed after the patient has been discharged from the transplant stay will be included.
- ASA 6 (brain-dead organ donors)
- Concurrent Cases - An additional operative procedure performed by a different surgical team under the same anesthetic (for example, coronary artery bypass graft procedure on a patient who is also undergoing a carotid endarterectomy). An assessment is not required on the concurrent procedure; however, additional procedures would be repeated as “concurrent” in the operative section for the assessed case.
- Cases with CPT codes on the CPT Code Exclusion List
- SCR on vacation - Each site is allowed to assign 4 of the 8-day cycles as vacation cycles and therefore does not need to collect cases during those cycles.

Hospital Exclusion Criteria

In addition to the case inclusion/exclusion criteria, hospital inclusion/exclusion criteria are also imposed. To maintain the highest level of data quality, only cases included in the odds ratio analysis are included in the PUF. These cases go through an additional level of scrutiny as they are passed from data collection to statistical analysis. A site is excluded from the odds ratio calculations and the PUF if it fits any of the following criteria:

- 30-day follow-up rate is under 80%
- Inter-Rater Reliability Audit disagreement rate is over 5%

6. Data Limitations

While every effort has been made to make the PUF as complete as possible, the data do have certain limitations. Some of these limitations have been deliberately introduced to safeguard the privacy of patients (such as removal of absolute dates). Other limitations are due to resource constraints (such as the collection of generic surgical variables only). The following items represent the most salient limitations of the data:

- Because such a wide variety of operations are tracked, the variables are necessarily generic in nature. This limitation may pose difficulties for researchers attempting in-depth research on specific conditions or operations.
- While the sex and race distributions are reasonably representative of the national surgery patient population, only patients over the age of 16 are available for assessment, so the age distribution is somewhat truncated. Patients over the age of 90 are also grouped into a 90+ category to prevent cases from being identifiable due to unique data.
- Patients are followed after surgery for a maximum of 30 days. Complications or death after that period are not included.
- In order to comply with HIPAA requirements, all absolute dates have been removed. The most critical of these is the date of surgery, which has been reduced to year of surgery only. Some dates (hospital entry, dates of laboratory tests, and so on) have been recoded into durations e.g. Date of Admission and Date of Discharge is recoded into Hospital Length of Stay.
- In order to comply with the Hospital Participation Agreement (HPA) that is agreed to between the ACS and participating sites, facility identifiers as well as

geographic information regarding the case have been removed. The HPA stipulates that the ACS does not identify participating sites. Site identification could be possible even with blinded identifiers through advanced statistics. A stipulation of access to the PUF is completion of the Data Use Agreement that strictly prohibits attempts to identify hospitals, health care providers, or patients.

- While many risk factors are tracked, preventative measures are not recorded which can lead to an underestimation of the risk of certain conditions when such measures are routinely taken before surgery.
- The data are submitted from hospitals that are participating in the ACS NSQIP and do not represent a statistically valid nationally representative sample.
- Most patients do not receive all possible preoperative laboratory tests, so some of these variables have a high percentage of missing values (15% to 45%, depending on the tests). This high percentage of missing data can make it problematic to use these variables in a traditional logistic regression model as well as in many other types of analysis.

This list may not include all data limitations and additional limitations may apply in future versions of the data.

7. Contact Information

All questions about the User Guide or PUF, as well as comments and suggestions for improvements are welcome and may be directed to Brian Matel, ACS NSQIP Statistical Report Manager via email at bmatel@facs.org.

8. Frequently Asked Questions

Request Process

Q: Who has access to this file?

A: Any individual with an official appointment at a fully participating site will be given access to the file following completion of the Data Use Agreement and a short set of questions that are available on the website.

Q: Is the file available to individuals from nonparticipating sites?

A: At this time the data files are only available to individuals with official appointments at fully participating sites.

Q: I am at a participating site and would like to work on a research project with others from a different site that is not participating. Will I be allowed to do that?

A: No. At this time use of the file is restricted to individuals at fully participating sites.

Q: How do I obtain a copy of this file?

A: Please see the “Data Request Process” on page 1 of this document for a step-by-step approach on how to do so.

Contents of the Files

Q: What is in this file?

A: The file contains Health Insurance Portability and Accountability Act (HIPAA) de-identified data from sites participating in the ACS NSQIP that received odds ratios in 2011. Each record includes 252 variables. The variable name, variable label, data definition, and other pertinent information are provided in Section 10: Data Variables and Definitions.

Q: Are other PUF data sets available?

A: Four other PUF files are available for download:

2005/2006 PUF – 152,490 cases from 121 sites

2007 PUF – 211,407 cases from 183 sites

2008 PUF – 271,368 cases from 211 sites

2009 PUF – 336,190 cases from 237 sites

2010 PUF – 363,431 cases from 258 sites

Q: Are site identifiers included in the database?

A: At this time we do not provide any geographic or site-specific identification. We took this approach to ensure the privacy of both the participating sites and surgeons.

Q: Are there surgeon-specific identifiers included in the database?

A: At this time we do not provide any surgeon-specific information. We took this approach to ensure the privacy of both the participating sites and surgeons.

Q: Why does the PUF exclude specific dates?

A: In order to release the PUF, certain adjustments to the data are required to ensure proper protection of patient information. To meet these requirements, we remove all elements of dates (except quarter of admission and year) for dates directly related to an individual. For more information on the 18 data elements that are

required for removal, please visit <http://privacyruleandresearch.nih.gov/> or http://privacyruleandresearch.nih.gov/pdf/HIPAA_Booklet_4-14-2003.pdf.

- Q: The ACS NSQIP program collects 135 variables, but the database contains 252 variables. What are the additional variables?
- A: The additional variables contained in the PUF relate to computed durations. For example, the admission and discharge dates are used to calculate hospital length of stay. In addition, each complication in the ACS NSQIP requires the use of 3 different variables in the database. There are a few other data elements collected in the ACS NSQIP that require multiple variables in the database. In 2008, we've removed RACE variable but added RACE_NEW and ETHNICITY_HISPANIC variables to comply with the CMS standard.
- Q: I am the Surgeon Champion or Surgical Clinical Reviewer from a site that has records in the PUF and would like to know which specific records are ours.
- A: You may contact Brett Beemer, ACS NSQIP Application Support Specialist, via email at bbeemer@facs.org to request a file that will contain the Case IDs from your facility.

Values in the Data

- Q: For each of the following complications, Pneumonia, On Ventilator > 48 hours, Urinary Tract Infection, and Bleeding Transfusion, one case did not have a known duration from operation to complication. Why is that?
- A: In each of these complications the case had an invalid date which inhibited the calculation of duration. The number of days from operation to complication variable is coded as -99 for these cases.
- Q: What are the probability scores for mortality and morbidity and how often are they calculated?
- A: The probabilities of mortality and morbidity are provided in this database for general and vascular surgery cases in 2011. These probabilities are derived using hierarchical regression analysis. They represent the probability (0 to 1) that a case will experience a morbid or mortal event based on the pre-existing conditions. These probabilities are calculated every 6 months for the previous 12 months of data so the algorithm used to generate the predicted values changes over time as does the data used to create the algorithm.
- Q: Which calculated probabilities of mortality and morbidity are supplied in this data set?

- A: The probabilities of mortality and morbidity for general and vascular surgical cases used in the risk-adjusted analysis in 2011 are provided. Future versions of the PUF may contain a more complete set of predictive values.
- Q: Why do some of the preoperative lab values have duration from lab to operation, but a value of -99 for the lab value?
- A: The results of the lab tests can be entered manually and thus are susceptible to data entry error. Depending on the preoperative lab variable roughly 1% of the cases had invalid values and these invalid values were set to -99 to simplify analysis. It is also possible that some cases have valid lab values, but are missing duration from lab to operation variable. This discrepancy is also related to a data entry error and the program continues to improve the data collection software to minimize the potential for data entry errors.
- Q: When performing analysis on the five digit CPT codes in the Other and Concurrent variables, how should I interpret those cases with a valid 5 digit CPT code but a CPT description set to NULL?
- A: If the case has a valid 5 digit CPT code that procedure occurred and should be evaluated as such. The CPT description is a secondary variable and provided for convenience. In the processing of large amounts of data some descriptions are purposefully or inadvertently removed.

File Formats

- Q: In what file formats are the data available?
- A: The data files are made available in a tab delimited TXT file, an SPSS file, and an SAS file.

* When a change in definitions across PUF years is noted, users should attend to this if they merge files. It is suggested that they evaluate variable categories across years and combine them in a manner appropriate to their research objectives.

| Position # | Variable Name | Data Type | Variable Label | Variable Definition | Variable Options at Entry | Comments |
|------------|--------------------|-----------|--|---|---|---|
| 1 | CaseID | Num | Case Identification Number | Each case or record in the database has a unique CaseID number. | | |
| 2 | SEX | Char | Gender | Gender | Male; Female | NULL = Unknown |
| 3 | RACE_NEW | Char | New Race | Race | American Indian or Alaska Native Asian Black or African American Native Hawaiian or Pacific Islander Unknown White | NULL = No Response |
| 4 | ETHNICITY_HISPANIC | Char | Ethnicity Hispanic | Ethnicity Hispanic | Yes; No | NULL = Unknown |
| 5 | PRNCPTX | Char | Principal operative procedure CPT code description | The principal operative procedure is the most complex of all the procedures performed by the primary operating team during the trip to the operating room. Additional procedures requiring separate CPT codes and/or concurrent procedures will be entered separately in the "Other Procedures" or "Concurrent Procedures" categories. | | |
| 6 | CPT | Char | CPT | The CPT code of the principal operative procedure. | | |
| 7 | WORKRVU | Num | Work Relative Value Unit | Work Relative Value Unit | | -99 = Unknown |
| 8 | INOUT | Char | Inpatient/outpatient | The hospital's definition of inpatient and outpatient status. | Outpatient; Inpatient | NULL = Unknown |
| 9 | TRANST | Char | Transfer status | The patient's transfer status which includes the following options: Admitted directly from home (Includes patients arriving from another hospital's emergency department); If the patient was transferred from another facility and was considered an inpatient at that facility Acute Care Hospital, VA Acute Care Hospital, Chronic Care Facility, and VA Chronic Care Facility are acceptable. If the kind of facility could not be determined 'Other' is entered. | From acute care hospital inpatient Not transferred (admitted from home) Nursing home - Chronic care - Intermediate care Outside emergency department Transfer from other Unknown | NULL = No Response Definition change from 2009 |
| 10 | Age | Char | Age of patient with patients over 89 coded as 90+ | Age of patient with patients over 89 coded as 90+. No patients under 15 are included. | | -99 = Unknown |
| 11 | AdmYR | Num | Year of Admission | Year of admission to the hospital | | -99 = Unknown |
| 12 | AdmSYR | Num | Year of Admission to Surgery | Year of admission to the surgical service | | Historical variable, no longer used |
| 13 | OperYR | Num | Year of Operation | Year the surgical procedure is performed | | -99 = Unknown |
| 14 | DISCHDEST | Char | Discharge Destination | Designate whether the patient was discharged to home or to another type of facility. Choose the patient's discharge destination from the following selections: (1) Skilled care, not home (e.g., transitional care unit, subacute hospital, ventilator bed, skilled nursing home) (2) Unskilled facility, not home (e.g., nursing home or assisted facility-if not patient's home preoperatively) (3) Facility which was home (e.g., return to a chronic care, unskilled facility, or assisted living-which was the patient's home preoperatively) (4) Home (5) Separate acute care (e.g., transfer to another acute care facility) (6) Rehab (7) Expired (8) Unknown | Skilled Care, Not Home Unskilled Facility Not Home Facility Which was Home Home Separate Acute Care Rehab Expired Unknown | NULL = No Response Variable added in 2011 |
| 15 | ANESTHES | Char | Principal anesthesia technique | The principal anesthesia technique used. General anesthesia takes precedence over all other forms of anesthesia. | Epidural General Local Monitored Anesthesia care (MAC) / IV Sedation | NULL = No Response Definition revised or clarified from 2010 |

| Position # | Variable Name | Data Type | Variable Label | Variable Definition | Variable Options at Entry | Comments |
|------------|---------------|-----------|--------------------------------|---|--------------------------------------|---|
| | | | | | None | |
| | | | | | Other | |
| | | | | | Regional | |
| | | | | | Spinal | |
| | | | | | Unknown | |
| 16 | ATTEND | Char | Level of Residency Supervision | Highest level of supervision provided by the attending staff surgeon for the case. Attending alone: Staff practitioner performed the procedure; resident not present; Attending in OR: Staff practitioner is scrubbed and present in the procedure/operating room; Attending in OR Suite: Staff practitioner is present in the procedural/surgical suite and available for consultation; Attending Not Present, but Available: Staff practitioner is not present, but immediately available on campus. | Attending & Resident in OR | NULL = Unknown Definition change from 2009 |
| | | | | | Attending Alone | |
| | | | | | Attending Not Present, but Available | |
| | | | | | | |
| | | | | | | |
| 17 | SURGSPEC | Char | Surgical Specialty | The surgical specialty of the primary surgeon performing the procedure. If the procedure is performed by a surgical specialty not included in the list of 10 specialties, the closest specialty to the primary surgeon is chosen. | Cardiac Surgery | Definition revised or clarified from 2010 |
| | | | | | General Surgery | |
| | | | | | Gynecology | |
| | | | | | Neurosurgery | |
| | | | | | Orthopedics | |
| | | | | | Otolaryngology (ENT) | |
| | | | | | Plastics | |
| | | | | | Thoracic | |
| | | | | | Urology | |
| | | | | | Vascular | |
| | | | | | | |
| | | | | | | |

| Position # | Variable Name | Data Type | Variable Label | Variable Definition | Variable Options at Entry | Comments |
|------------|---------------|-----------|---|--|---------------------------|--|
| 18 | ELECTSURG | Char | Elective Surgery | <p>"YES" is entered if the patient is brought to the hospital or facility for a scheduled (elective) surgery from their home or normal living situation on the day that the procedure is performed.</p> <p>ENTER NO (Exclude) FOR the following:</p> <ul style="list-style-type: none"> patients who are inpatient at an acute care hospital (example: patient transferred from another acute care hospital to your hospital for surgery) patients who are transferred from an ED patients who are transferred from a clinic patients who undergo an emergent/urgent surgical case patients admitted to the hospital on the day(s) prior to a scheduled procedure for any reason (e.g. cardiac or pulmonary workup or "tuning", bowel cleanout, TPN, hydration, anticoagulation reversal etc.) <p>ENTER YES (Include) FOR the following:</p> <ul style="list-style-type: none"> patients staying with friends or family, or in a local hotel, because of logistics (example: patient lives 50 miles from the hospital and stays in a hotel across from the hospital the night before their scheduled (elective) surgery) patients who come from their present "home" (which may include patients whose home is a nursing home, assisted care facility, prison or other non-hospital institution) <p><i>The intent is to identify a relatively homogeneous group of patients who are well enough to come from home, to allow for more meaningful comparative analyses.</i></p> | Yes; No; Unknown | NULL = No Response Variable added in 2011 |
| 19 | HEIGHT | Num | Height | The patient's most recent height documented in the medical record in inches (in). | | -99 = Unknown |
| 20 | WEIGHT | Num | Weight | The patient's most recent weight documented in the medical record in pounds (lbs). | | -99 = Unknown |
| 21 | DIABETES | Char | Diabetes mellitus with oral agents or insulin | <p>The treatment regimen of the patient's chronic, long-term management (> 2 weeks). Diabetes mellitus is a metabolic disorder of the pancreas whereby the individual requires daily dosages of exogenous parenteral insulin or a non-insulin anti-diabetic agent to prevent a hyperglycemia/metabolic acidosis. Patients with insulin resistance that routinely take anti-diabetic agents are included. Patients whose diabetes is controlled by diet alone are not included. No: no diagnosis of diabetes or diabetes controlled by diet alone. Non-Insulin: a diagnosis of diabetes requiring therapy with a non-insulin anti-diabetic agent (such as oral agents or other non-insulin agents). Insulin: a diagnosis of diabetes requiring daily insulin therapy</p> | INSULIN; NO; NON-INSULIN | NULL = Unknown Definition change from 2009 Definition revised or clarified from 2010 |
| 22 | SMOKE | Char | Current smoker within one year | If the patient has smoked cigarettes in the year prior to admission for surgery "YES" entered. Patients who smoke cigars or pipes or use chewing tobacco are not included. | Yes; No | NULL = Unknown |

| Position # | Variable Name | Data Type | Variable Label | Variable Definition | Variable Options at Entry | Comments |
|------------|---------------|-----------|---|---|--------------------------------|---|
| 23 | PACKS | Num | Pack-years of smoking | If the patient has ever been a smoker, the total number of pack/years of smoking for this patient is provided. Pack-years are defined as the number of packs of cigarettes smoked per day times the number of years the patient has smoked. If the patient has never been a smoker, "0" is entered. If pack-years are > 200, 200 is entered. If smoking history cannot be determined, "-99" is entered. The possible range for number of pack-years is 0 to 200. If the chart documents differing values for pack year cigarette history or ranges for either packs per day or number of years patient has smoked, the highest value is documented. | | -99 = Unknown |
| 24 | ETOH | Char | EtOH > 2 drinks/day in 2 wks before admission | "YES" is entered if 2 drinks per day in the two weeks prior to admission: The patient admits to drinking >2 ounces of hard liquor or > two 12 oz. cans of beer or > two 6 oz. glasses of wine per day in the two weeks prior to admission. If the patient is a binge drinker, the numbers of drinks during the binge are divided by seven days and then the definition is applied. | Yes; No | NULL = Unknown |
| 25 | DYSPNEA | Char | Dyspnea | The patient describes difficult, painful, or labored breathing. Dyspnea may be symptomatic of numerous disorders that interfere with adequate ventilation or perfusion of the blood with oxygen. The dyspneic patient is subjectively aware of difficulty with breathing. One of the following categories are selected that best indicate the patient's subjective experience coupled with objective assessment: No dyspnea, Dyspnea upon moderate exertion (for example, is unable to climb one flight of stairs without shortness of breath), Dyspnea at rest (for example, cannot complete a sentence without needing to take a breath). The most severe category of dyspnea that the patient has within the 30 days prior to surgery is reported. | AT REST; MODERATE EXERTION; NO | NULL = Unknown Definition revised or clarified from 2010 |
| 26 | DNR | Char | Do not resuscitate (DNR) status | "YES" is entered if the patient has had a Do-Not-Resuscitate (DNR) order written in the physician's order sheet of the patient's chart and it has been signed or co-signed by an attending physician in the 30 days prior to surgery. If the DNR order as defined above was rescinded immediately prior to surgery in order to operate on the patient, "YES" is entered. "NO" is entered if DNR discussions are documented in the progress note, but no official DNR order has been written in the physician order sheet or if the attending physician has not signed the official order. | Yes; No | NULL = Unknown |
| 27 | FNSTATUS1 | Char | Functional health status Prior to Current Illness | | Independent | Historical variable, no longer used |

| Position # | Variable Name | Data Type | Variable Label | Variable Definition | Variable Options at Entry | Comments |
|------------|---------------|-----------|---|---|--|--|
| 28 | FNSTATUS2 | Char | Functional health status Prior to Surgery | <p>This variable focuses on the patient's abilities to perform activities of daily living (ADLs) in the 30 days prior to surgery. Activities of daily living are defined as 'the activities usually performed in the course of a normal day in a person's life'. ADLs include: bathing, feeding, dressing, toileting, and mobility. The best functional status demonstrated by the patient within the 30 days prior to surgery is reported. Report the level of functional health status as defined by the following criteria.</p> <p>(1) Independent: The patient does not require assistance from another person for any activities of daily living. This includes a person who is able to function independently with prosthetics, equipment, or devices.</p> <p>(2) Partially dependent: The patient requires some assistance from another person for activities of daily living. This includes a person who utilizes prosthetics, equipment, or devices but still requires some assistance from another person for ADLs.</p> <p>(3) Totally dependent: The patient requires total assistance for all activities of daily living.</p> <p>(4) Unknown: If unable to ascertain the functional status prior to surgery, report as unknown.</p> <p>All patients with psychiatric illnesses should be evaluated for their ability to function with or without assistance with ADLs just as the non-psychiatric patient. For instance, if a patient with schizophrenia is able to care for him/herself without the assistance of nursing care, he/she is considered independent. If there is a change in the patients functional status, (i.e. improvement to worsening) within the 30 days prior to surgery, report the patient's best functional status.</p> | Independent; Partially Dependent; Totally Dependent; Unknown | NULL = No Response Definition revised or clarified from 2010 |
| 29 | VENTILAT | Char | Ventilator dependent | "YES" is entered if a preoperative patient required ventilator-assisted respiration at any time during the 48 hours preceding surgery. This does not include the treatment of sleep apnea with CPAP. | Yes; No | NULL = Unknown |
| 30 | HXCOPD | Char | History of severe COPD | "YES" is entered for patients with chronic obstructive pulmonary disease (such as emphysema and/or chronic bronchitis) resulting in any one or more of the following: -Functional disability from COPD (e.g., dyspnea, inability to perform ADLs) -Hospitalization in the past for treatment of COPD -Requires chronic bronchodilator therapy with oral or inhaled agents. -An FEV ₁ of <75% of predicted on pulmonary function testing. Patients are not included whose only pulmonary disease is asthma, an acute and chronic inflammatory disease of the airways resulting in bronchospasm. Patients are not included with diffuse interstitial fibrosis or sarcoidosis. | Yes; No | NULL = Unknown |

| Position # | Variable Name | Data Type | Variable Label | Variable Definition | Variable Options at Entry | Comments |
|------------|---------------|-----------|--------------------|---|---------------------------|---|
| 31 | CPNEUMON | Char | Current pneumonia | <p>"YES" is entered if the patient has a new pneumonia or recently diagnosed pneumonia and on current antibiotic treatment at the time the patient is brought to the OR. Patients with pneumonia <i>must meet criteria from both <u>Radiology</u> and <u>Signs/Symptoms/Laboratory</u> sections</i> listed as follows:</p> <p><u>Radiology:</u> One definitive chest radiological exam (x-ray or CT)* with at least <u>one</u> of the following: •New or progressive and persistent infiltrate •Consolidation or opacity •Cavitation Note: In patients with underlying pulmonary or cardiac disease (e.g. respiratory distress syndrome, bronchopulmonary dysplasia, pulmonary edema, or chronic obstructive pulmonary disease), <u>two or more serial chest radiological exams (x-ray or CT)</u> are required. (Serial radiological exams should be taken no less than 12 hours apart, but not more than 7 days apart. The occurrence should be assigned on the date the patient first met all of the criteria of the definition (i.e. if the patient meets all PNA criteria on the day of the first xray, assign this date to the occurrence. Do not assign the date of the occurrence to when the second serial xray was performed).</p> <p><u>Signs/Symptoms/Laboratory:</u> FOR ANY PATIENT, at least <u>one</u> of the following: •Fever (>38 C or >100.4 F) with no other recognized cause •Leukopenia (<4000 WBC/mm3) <u>or</u> leukocytosis (≥12,000 WBC/mm3) •For adults ≥ 70 years old, altered mental status with no other recognized cause <u>And</u> At least <u>one</u> of the following: •5% Bronchoalveolar lavage (BAL) -obtained cells contain intracellular bacteria on direct microscopic exam (e.g., Gram stain) •Positive growth in blood culture not related to another source of infection •Positive growth in culture of pleural fluid •Positive quantitative culture from minimally contaminated lower respiratory tract (LRT) specimen (e.g. BAL or protected specimen brushing) OR</p> | Yes; No | Definition revised or clarified from 2010 |
| 32 | ASCITES | Char | Ascites | <p>"YES" is entered for patients with the presence of fluid accumulation in the peritoneal cavity noted on physical examination, abdominal ultrasound, or abdominal CT/MRI within 30 days prior to the operation. Documentation should state either active or a history of liver disease (for example, jaundice, encephalopathy, hepatomegaly, portal hypertension, liver failure, or spider telangiectasia). Minimal or trace ascites would not qualify; however, malignant ascites (exclusive of liver disease) due to extensive cancer would qualify.</p> | Yes; No | Definition revised or clarified from 2010 |
| 33 | ESOVAR | Char | Esophageal varices | <p>"YES" is entered for patients with esophageal varices present preoperatively and documented on an EGD or CT scan performed within 6 months prior to the surgical procedure. Esophageal varices are engorged collateral veins in the esophagus that bypass a scarred liver to carry portal blood to the superior vena cava. A sustained increase in portal pressure results in esophageal varices that are most frequently demonstrated by direct visualization at esophagoscopy.</p> | Yes; No | NULL = Unknown |

| Position # | Variable Name | Data Type | Variable Label | Variable Definition | Variable Options at Entry | Comments |
|------------|---------------|-----------|--|--|---------------------------|--|
| 34 | HXCHF | Char | Congestive heart failure (CHF) in 30 days before surgery | "YES" is entered in patients with congestive heart failure. Congestive heart failure is the inability of the heart to pump a sufficient quantity of blood to meet the metabolic needs of the body or can do so only at increased ventricular filling pressure. Only newly diagnosed CHF within the previous 30 days or a diagnosis of chronic CHF with new signs or symptoms in the 30 days prior to surgery fulfills this definition. Common manifestations are: -Abnormal limitation in exercise tolerance due to dyspnea or fatigue -Orthopnea (dyspnea on lying supine) -Paroxysmal nocturnal dyspnea (PND-awakening from sleep with dyspnea) -Increased jugular venous pressure -Pulmonary rales on physical examination -Cardiomegaly -Pulmonary vascular engorgement. | Yes; No | NULL = Unknown |
| 35 | HXMI | Char | History of myocardial infarction 6 mos prior to surgery | "Yes" is entered for patients with a history of a non-Q wave or a Q wave infarct in the six months prior to surgery as diagnosed in the patient's medical record. | Yes; No | NULL = Unknown |
| 36 | PRVPCI | Char | Previous PCI | "YES" is entered for patient who have undergone percutaneous coronary intervention (PCI) at any time (including any attempted PCI). This includes either balloon dilatation or stent placement. This does not include valvuloplasty procedures. | Yes; No | NULL = Unknown |
| 37 | PRVPCS | Char | Previous cardiac surgery | "YES" is entered if the patient has had any major cardiac surgical procedures (performed either as an 'off-pump' repair or utilizing cardiopulmonary bypass). This includes coronary artery bypass graft surgery, valve replacement or repair, repair of atrial or ventricular septal defects, great thoracic vessel repair, cardiac transplant, left ventricular aneurysmectomy, insertion of left ventricular assist devices (LVAD), etc. Not include are pacemaker insertions or automatic implantable cardioverter defibrillator (AICD) insertions. | Yes; No | NULL = Unknown |
| 38 | HXANGINA | Char | History of angina in 1 month before surgery | "YES" is entered if patient reports pain or discomfort between the diaphragm and the mandible resulting from myocardial ischemia. Typically angina is a dull, diffuse (fist-sized or larger) substernal chest discomfort precipitated by exertion or emotion and relieved by rest or nitroglycerine. Radiation to the arms and shoulders often occurs, and occasionally to the neck, jaw (mandible, not maxilla), or interscapular region. For patients on anti-anginal medications, 'YES' is entered only if the patient has had angina at any time within one month prior to surgery. | Yes; No | NULL = Unknown |
| 39 | HYPERMED | Char | Hypertension requiring medication | "YES" is entered for patients with a persistent elevation of systolic blood pressure > 140 mm Hg or a diastolic blood pressure > 90 mm Hg or requires an antihypertensive treatment (e.g., diuretics, beta blockers, ACE inhibitors, calcium channel blockers) at the time the patient is being considered as a candidate for surgery (which should be no longer than 30 days prior to surgery). Hypertension must be documented in the patient's chart. | Yes; No | NULL = Unknown Definition revised or clarified from 2010 |
| 40 | HXPVD | Char | History of revascularization/amputation for periph. vascular disease | "YES" is entered for a patient with any type of angioplasty (including stent placement) or revascularization procedure for atherosclerotic peripheral vascular disease (PVD) (e.g., aorta-femoral, femoral-femoral, femoral-popliteal) or a patient who has had any type of amputation procedure for PVD (e.g., toe amputations, transmetatarsal amputations, below the knee or above the knee amputations). Patients who have had amputation for trauma or a resection of abdominal aortic aneurysms should not be included. | Yes; No | NULL = Unknown |

| Position # | Variable Name | Data Type | Variable Label | Variable Definition | Variable Options at Entry | Comments |
|------------|---------------|-----------|---|---|---------------------------|---|
| 41 | RESTPAIN | Char | Rest pain/gangrene | "YES" is entered for a patient with rest pain or Gangrene. Rest pain is a more severe form of ischemic pain due to occlusive disease, which occurs at rest and is manifested as a severe, unrelenting pain aggravated by elevation and often preventing sleep. Gangrene is a marked skin discoloration and disruption indicative of death and decay of tissues in the extremities due to severe and prolonged ischemia. Patients included with ischemic ulceration and/or tissue loss related to peripheral vascular disease. Fournier's gangrene are not included. | Yes; No | NULL = Unknown |
| 42 | RENAFAIL | Char | Acute renal failure (post-op) | "YES" is entered if the patient has the clinical condition associated with rapid, steadily increasing azotemia (increase in BUN) and a rising creatinine of above 3 mg/dl. Acute renal failure should be noted within 24 hours prior to surgery. | Yes; No | NULL = Unknown |
| 43 | DIALYSIS | Char | Currently on dialysis (pre-op) | "YES" is entered if the patient has acute or chronic renal failure requiring treatment with peritoneal dialysis, hemodialysis, hemofiltration, hemodiafiltration or ultrafiltration within 2 weeks prior to surgery. | Yes; No | NULL = Unknown |
| 44 | IMPSENS | Char | Impaired sensorium | "YES" is entered if patient is acutely confused and/or delirious and responds to verbal and/or mild tactile stimulation. Patients is noted to have developed an impaired sensorium if they have mental status changes, and/or delirium in the context of the current illness. Patients with chronic or long-standing mental status changes secondary to chronic mental illness (e.g., schizophrenia) or chronic dementing illnesses (e.g., multi-infarct dementia, senile dementia of the | Yes; No | NULL = Unknown |
| 45 | COMA | Char | Coma >24 hours | "YES" is entered if patient is unconscious, or postures to painful stimuli, or is unresponsive to all stimuli entering surgery. This does not include drug-induced coma. | Yes; No | NULL = Unknown |
| 46 | HEMI | Char | Hemiplegia | "YES" is entered if patient has sustained acute or chronic neuromuscular injury resulting in total or partial paralysis or paresis (weakness) of one side of the body. 'YES' is entered if the patient has hemiplegia/hemiparesis (that has not recovered or been rehabilitated) upon arrival to the OR. "YES" is entered, if there is hemiplegia or hemiparesis associated with a CVA/Stroke also. | Yes; No | NULL = Unknown |
| 47 | HXTIA | Char | History of transient ischemic attacks (TIA) | "YES" is entered if patient has transient ischemic attacks (TIAs). TIAs are focal neurologic deficits (e.g. numbness of an arm or amaurosis fugax) of sudden onset and brief duration (usually <30 minutes) that usually reflects dysfunction in a cerebral vascular distribution. These attacks may be recurrent and, at times, may precede a stroke. | Yes; No | NULL = Unknown |
| 48 | CVA | Char | CVA/Stroke with neurological deficit | "YES" is entered if patient has a history of a cerebrovascular accident (embolic, thrombotic, or hemorrhagic) with persistent residual motor, sensory, or cognitive dysfunction. (e.g., hemiplegia, hemiparesis, aphasia, sensory deficit, impaired memory). If the neurological deficit is hemiplegia/hemiparesis, 'YES' is entered to Hemiplegia/Hemiparesis in addition to CVA/Stroke. | Yes; No | NULL = Unknown |
| 49 | CVANO | Char | CVA/Stroke with no neurological deficit | "YES" is entered if the patient has a history of a cerebrovascular accident (embolic, thrombotic, or hemorrhagic), but no current residual neurologic dysfunction or deficit. | Yes; No | NULL = Unknown Definition revised or clarified from 2010 |
| 50 | TUMORCNS | Char | Tumor involving CNS | "YES" is entered if patient has a space-occupying tumor of the brain or spinal cord, which may be benign (e.g., meningiomas, ependymoma, oligodendroglioma) or primary (e.g., astrocytoma, glioma, glioblastoma multiform) or secondary malignancies (e.g., metastatic lung, breast, malignant | Yes; No | NULL = Unknown |
| 51 | Para | Char | Paraplegia | "YES" is entered if the patient has sustained acute or chronic neuromuscular injury resulting in total or partial paralysis or paresis (weakness) of the lower extremities. | Yes; No | NULL = Unknown |

| Position # | Variable Name | Data Type | Variable Label | Variable Definition | Variable Options at Entry | Comments |
|------------|---------------|-----------|---|--|---------------------------|--|
| 52 | QUAD | Char | Quadriplegia | "YES" is entered if the patient has sustained acute or chronic neuromuscular injury resulting in total or partial paralysis or paresis (weakness) of all four extremities. | Yes; No | NULL = Unknown |
| 53 | DISCANC | Char | Disseminated cancer | "YES" is entered for patients who have cancer that: (1) Has spread to one site or more sites in addition to the primary site AND (2) In whom the presence of multiple metastases indicates the cancer is widespread, fulminant, or near terminal. The following are reported as Disseminated Cancer: Acute Lymphocytic Leukemia (ALL), Acute Myelogenous Leukemia (AML), and Stage | Yes; No | NULL = Unknown |
| 54 | WNDINF | Char | Open wound/wound infection | "YES" is entered for patients with evidence of an open wound (including surgical wounds) that communicates to the air by direct exposure, with or without cellulitis or purulent exudate. This does not include osteomyelitis or localized abscesses. The wound must communicate to the air by direct exposure. (Open drains should be considered an open wound: i.e. Penrose drains). | Yes; No | NULL = Unknown Definition revised or clarified from 2010 |
| 55 | STEROID | Char | Steroid use for chronic condition | Patient has required the regular administration of oral or parenteral corticosteroid medications (for example, Prednisone, Decadron) in the 30 days prior to surgery for a chronic medical condition (for example, COPD, asthma, rheumatologic disease, rheumatoid arthritis, inflammatory bowel disease). "YES" is entered if the patient regularly takes other immunosuppressant medications such as those utilized for chemotherapy patients, transplant patients or patients with chronic inflammatory conditions. Topical corticosteroids applied to the skin or corticosteroids administered by inhalation or rectally are not included. Patients who only receive short course steroids (duration 10 days or less) in the 30 days prior to surgery are not included. | Yes; No | NULL = Unknown Definition revised or clarified from 2010 |
| 56 | WTLOSS | Char | >10% loss body weight in last 6 months | "YES" is entered for patients with a greater than 10% decrease in body weight in the six month interval immediately preceding surgery as manifested by serial weights in the chart, as reported by the patient, or as evidenced by change in clothing size or severe cachexia. Patients who have intentionally lost weight as part of a weight reduction program do not qualify. | Yes; No | NULL = Unknown |
| 57 | BLEEDIS | Char | Bleeding disorders | "YES" is entered for patients with any condition that places the patient at risk for excessive bleeding requiring hospitalization due to a deficiency of blood clotting elements (e.g., vitamin K deficiency, hemophilias, thrombocytopenia, chronic anticoagulation therapy that has not been discontinued prior to surgery) Patients not included who are on chronic aspirin therapy. If there is no documentation of discontinuation of medication, "YES" is entered for bleeding disorder. | Yes; No | NULL = Unknown |
| 58 | TRANSFUS | Char | Transfusion >4 units PRBCs in 72 hours before surgery | "YES" is entered for patients with preoperative loss of blood necessitating a minimum of 5 units of whole blood/packed red cells transfused during the 72 hours prior to surgery including any blood transfused in the emergency room. | Yes; No | NULL = Unknown |
| 59 | CHEMO | Char | Chemotherapy for malignancy in <= 30 days pre-op | "YES" entered if the patient had any chemotherapy treatment for cancer in the 30 days prior to surgery. Chemotherapy may include, but is not restricted to, oral and parenteral treatment with chemotherapeutic agents for malignancies such as colon, breast, lung, head and neck, and gastrointestinal solid tumors as well as lymphatic and hematopoietic malignancies such as lymphomas, leukemia, and multiple myeloma. Patient is not included if treatment consists solely of hormonal therapy. Chemotherapy treatment must be for malignancy. | Yes; No | NULL = Unknown Definition revised or clarified from 2010 |

| Position # | Variable Name | Data Type | Variable Label | Variable Definition | Variable Options at Entry | Comments |
|------------|---------------|-----------|---|--|----------------------------------|---|
| 60 | RADIO | Char | Radiotherapy for malignancy in last 90 days | "YES" entered if the patient had any radiotherapy treatment for cancer in the 90 days prior to surgery. Count If the patient had radiation seeds implanted and the implantation was within 90 days prior to the operation. | Yes; No | NULL = Unknown |
| 61 | PRSEPSIS | Char | Systemic Sepsis | <p>Sepsis is a vast clinical entity that takes a variety of forms. The spectrum of disorders spans from relatively mild physiologic abnormalities to septic shock. The most significant level is reported using the following criteria:SIRS (Systemic Inflammatory Response Syndrome): SIRS is a widespread inflammatory response to a variety of severe clinical insults. This syndrome is clinically recognized by the presence of two or more of the following within the same time frame: <input type="checkbox"/>Temp >38 degrees C or <36 degrees C <input type="checkbox"/>HR >90 bpm <input type="checkbox"/>RR >20 breaths/min or PaCO2 <32 mmHg(<4.3 kPa) <input type="checkbox"/>WBC >12,000 cell/mm3, <4000 cells/mm3, or >10% immature (band) forms <input type="checkbox"/>Anion gap acidosis: this is defined by either: [Na + K] – [CL + HCO3 (or serum CO2)]. If this number is greater than 16, then an anion gap acidosis is present. Na – [CL + HCO3 (or serum CO2)].</p> <p>If this number is greater than 12, then An anion gap acidosis is present.</p> <p>Sepsis: Sepsis is the systemic response to infection. This variable reported if the patient has clinical signs and symptoms of SIRS listed above and one of the following: . Positive blood culture. Clinical documentation of purulence or positive culture from any site thought to be causative;Severe Sepsis/Septic Shock: Sepsis is considered severe when it is associated with organ and/or circulatory dysfunction. This variable reported if the patient has the clinical signs and symptoms of SIRS or sepsis AND documented organ and/or circulatory dysfunction. Examples of organ dysfunction include: oliguria, acute alteration in mental status, acute respiratory distress. Examples of circulatory dysfunction include: hypotension, requirement of inotropic or vasopressor agents.</p> | SIRS; Sepsis; Septic Shock; None | NULL = Unknown |
| 62 | Pregnancy | Char | Pregnancy | "YES" entered if pregnant. Pregnancy is determined by one of the following: . Administration of a blood or urine pregnancy test with a positive result . Visualization of the fetus by ultrasound . Indication of fetal heart rate by ultrasound or fetal heart monitoring Pregnancy takes approximately 40 weeks between the time of the last menstrual cycle and delivery. | Yes; No | NULL = Not applicable or not documented because variable was added in July 2006 |
| 63 | PrOper30 | Char | Prior Operation within 30 days | "YES" entered if the patient has had any major surgical procedure performed within 30 days prior to the assessed operation that would meet the following NSQIP criteria: Operation was performed utilizing general, spinal, or epidural anesthesia or operation performed included any of the following: carotid endarterectomy, inguinal hernia repair, parathyroidectomy, thyroidectomy, breast lumpectomy, or endovascular AAA repair Operation was not listed on the NSQIP CPT Exclusion list. Also included are any transplant procedures or trauma procedures if performed within 30 days prior to the assessed operation. | Yes; No | NULL = Not applicable or not documented because variable was added in July 2006 |
| 64 | DPRNA | Num | Days from Na Preoperative Labs to Operation | Days from Na Preoperative Labs to Operation | | -99 = Lab value not obtained or Unknown |
| 65 | DPRBUN | Num | Days from BUN Preoperative Labs to Operation | Days from BUN Preoperative Labs to Operation | | -99 = Lab value not obtained or Unknown |
| 66 | DPRCREAT | Num | Days from Creatinine Preoperative Labs to Operation | Days from Creatinine Preoperative Labs to Operation | | -99 = Lab value not obtained or Unknown |
| 67 | DPRALBUM | Num | Days from Albumin Preoperative Labs to Operation | Days from Albumin Preoperative Labs to Operation | | -99 = Lab value not obtained or Unknown |

| Position # | Variable Name | Data Type | Variable Label | Variable Definition | Variable Options at Entry | Comments |
|------------|---------------|-----------|---|--|---------------------------|---|
| 68 | DPRBILI | Num | Days from Bilirubin Preoperative Labs to Operation | Days from Bilirubin Preoperative Labs to Operation | | -99 = Lab value not obtained or Unknown |
| 69 | DPRSGOT | Num | Days from SGOT Preoperative Labs to Operation | Days from SGOT Preoperative Labs to Operation | | -99 = Lab value not obtained or Unknown |
| 70 | DPRALKPH | Num | Days from ALKPHOS Preoperative Labs to Operation | Days from ALKPHOS Preoperative Labs to Operation | | -99 = Lab value not obtained or Unknown |
| 71 | DPRWBC | Num | Days from WBC Preoperative Labs to Operation | Days from WBC Preoperative Labs to Operation | | -99 = Lab value not obtained or Unknown |
| 72 | DPRHCT | Num | Days from HCT Preoperative Labs to Operation | Days from HCT Preoperative Labs to Operation | | -99 = Lab value not obtained or Unknown |
| 73 | DPRPLATE | Num | Days from PlateCount Preoperative Labs to Operation | Days from PlateCount Preoperative Labs to Operation | | -99 = Lab value not obtained or Unknown |
| 74 | DPRPTT | Num | Days from PTT Preoperative Labs to Operation | Days from PTT Preoperative Labs to Operation | | -99 = Lab value not obtained or Unknown |
| 75 | DPRPT | Num | Days from PT Preoperative Labs to Operation | Days from PT Preoperative Labs to Operation | | -99 = Lab value not obtained or Unknown |
| 76 | DPRINR | Num | Days from INR Preoperative Labs to Operation | Days from INR Preoperative Labs to Operation | | -99 = Lab value not obtained or Unknown |
| 77 | PRSODM | Num | Pre-operative serum sodium | Pre-operative serum sodium | | -99 = Lab value not obtained or Unknown |
| 78 | PRBUN | Num | Pre-operative BUN | Pre-operative BUN | | -99 = Lab value not obtained or Unknown |
| 79 | PRCREAT | Num | Pre-operative serum creatinine | Pre-operative serum creatinine | | -99 = Lab value not obtained or Unknown |
| 80 | PRALBUM | Num | Pre-operative serum albumin | Pre-operative serum albumin | | -99 = Lab value not obtained or Unknown |
| 81 | PRBILI | Num | Pre-operative total bilirubin | Pre-operative total bilirubin | | -99 = Lab value not obtained or Unknown |
| 82 | PRSGOT | Num | Pre-operative SGOT | Pre-operative SGOT | | -99 = Lab value not obtained or Unknown |
| 83 | PRALKPH | Num | Pre-operative alkaline phosphatase | Pre-operative alkaline phosphatase | | -99 = Lab value not obtained or Unknown |
| 84 | PRWBC | Num | Pre-operative WBC | Pre-operative WBC | | -99 = Lab value not obtained or Unknown |
| 85 | PRHCT | Num | Pre-operative hematocrit | Pre-operative hematocrit | | -99 = Lab value not obtained or Unknown |
| 86 | PRPLATE | Num | Pre-operative platelet count | Pre-operative platelet count | | -99 = Lab value not obtained or Unknown |
| 87 | PRPTT | Num | Pre-operative PTT | Pre-operative PTT | | -99 = Lab value not obtained or Unknown |
| 88 | PRINR | Num | Pre-operative International Normalized Ratio (INR) of PT values | Pre-operative International Normalized Ratio (INR) of PT values | | -99 = Lab value not obtained or Unknown |
| 89 | PRPT | Num | Pre-operative PT | Pre-operative PT | | -99 = Lab value not obtained or Unknown |
| 90 | OTHERPROC1 | Char | Other Procedure 1 | An additional operative procedure performed by the same surgical team (i.e., the same specialty/service) under the same anesthetic which has a CPT code different from that of the Principal Operative Procedure (e.g., a splenectomy performed in the course of a cholecystectomy). ALL additional procedures/CPT codes for the OR visit are reported. | | NULL = No Procedure |
| 91 | OTHERCPT1 | Char | Other CPT Code 1 | CPT Code | | NULL = No Procedure |
| 92 | OTHERWRVU1 | Num | Other Work Relative Value Unit 1 | Other Work Relative Value Unit 1 | | -99 = No Procedure/Unknown |
| 93 | OTHERPROC2 | Char | Other Procedure 2 | See 'Other Procedure 1' | | NULL = No Procedure |
| 94 | OTHERCPT2 | Char | Other CPT Code 2 | CPT Code | | NULL = No Procedure |
| 95 | OTHERWRVU2 | Num | Other Work Relative Value Unit 2 | Other Work Relative Value Unit 2 | | -99 = No Procedure/Unknown |

| Position # | Variable Name | Data Type | Variable Label | Variable Definition | Variable Options at Entry | Comments |
|------------|---------------|-----------|---------------------------------------|--|---------------------------|----------------------------|
| 96 | OTHERPROC3 | Char | Other Procedure 3 | See 'Other Procedure 1' | | NULL = No Procedure |
| 97 | OTHERCPT3 | Char | Other CPT Code 3 | CPT Code | | NULL = No Procedure |
| 98 | OTHERWRVU3 | Num | Other Work Relative Value Unit 3 | Other Work Relative Value Unit 3 | | -99 = No Procedure/Unknown |
| 99 | OTHERPROC4 | Char | Other Procedure 4 | See 'Other Procedure 1' | | NULL = No Procedure |
| 100 | OTHERCPT4 | Char | Other CPT Code 4 | CPT Code | | NULL = No Procedure |
| 101 | OTHERWRVU4 | Num | Other Work Relative Value Unit 4 | Other Work Relative Value Unit 4 | | -99 = No Procedure/Unknown |
| 102 | OTHERPROC5 | Char | Other Procedure 5 | See 'Other Procedure 1' | | NULL = No Procedure |
| 103 | OTHERCPT5 | Char | Other CPT Code 5 | CPT Code | | NULL = No Procedure |
| 104 | OTHERWRVU5 | Num | Other Work Relative Value Unit 5 | Other Work Relative Value Unit 5 | | -99 = No Procedure/Unknown |
| 105 | OTHERPROC6 | Char | Other Procedure 6 | See 'Other Procedure 1' | | NULL = No Procedure |
| 106 | OTHERCPT6 | Char | Other CPT Code 6 | CPT Code | | NULL = No Procedure |
| 107 | OTHERWRVU6 | Num | Other Work Relative Value Unit 6 | Other Work Relative Value Unit 6 | | -99 = No Procedure/Unknown |
| 108 | OTHERPROC7 | Char | Other Procedure 7 | See 'Other Procedure 1' | | NULL = No Procedure |
| 109 | OTHERCPT7 | Char | Other CPT Code 7 | CPT Code | | NULL = No Procedure |
| 110 | OTHERWRVU7 | Num | Other Work Relative Value Unit 7 | Other Work Relative Value Unit 7 | | -99 = No Procedure/Unknown |
| 111 | OTHERPROC8 | Char | Other Procedure 8 | See 'Other Procedure 1' | | NULL = No Procedure |
| 112 | OTHERCPT8 | Char | Other CPT Code 8 | CPT Code | | NULL = No Procedure |
| 113 | OTHERWRVU8 | Num | Other Work Relative Value Unit 8 | Other Work Relative Value Unit 8 | | -99 = No Procedure/Unknown |
| 114 | OTHERPROC9 | Char | Other Procedure 9 | See 'Other Procedure 1' | | NULL = No Procedure |
| 115 | OTHERCPT9 | Char | Other CPT Code 9 | CPT Code | | NULL = No Procedure |
| 116 | OTHERWRVU9 | Num | Other Work Relative Value Unit 9 | Other Work Relative Value Unit 9 | | -99 = No Procedure/Unknown |
| 117 | OTHERPROC10 | Char | Other Procedure 10 | See 'Other Procedure 1' | | NULL = No Procedure |
| 118 | OTHERCPT10 | Char | Other CPT Code 10 | CPT Code | | NULL = No Procedure |
| 119 | OTHERWRVU10 | Num | Other Work Relative Value Unit 10 | Other Work Relative Value Unit 10 | | -99 = No Procedure/Unknown |
| 120 | CONCURR1 | Char | Concurrent Procedure 1 | An additional operative procedure performed by adifferent surgical team (i.e., a different specialty/service) under the same anesthetic which has a CPT code different from that of the Principal Operative Procedure (e.g., Coronary Artery Bypass Graft procedure on a patient who is also undergoing a Carotid Endarterectomy). | | NULL = No Procedure |
| 121 | CONCPT1 | Char | Concurrent CPT 1 | Concurrent CPT 2 | | NULL = No Procedure |
| 122 | CONWRVU1 | Num | Concurrent Work Relative Value Unit 1 | Concurrent Work Relative Value Unit 2 | | -99 = No Procedure/Unknown |
| 123 | CONCURR2 | Char | Concurrent Procedure 2 | Concurrent Procedure 3 | | NULL = No Procedure |
| 124 | CONCPT2 | Char | Concurrent CPT 2 | Concurrent CPT 3 | | NULL = No Procedure |
| 125 | CONWRVU2 | Num | Concurrent Work Relative Value Unit 2 | Concurrent Work Relative Value Unit 3 | | -99 = No Procedure/Unknown |
| 126 | CONCURR3 | Char | Concurrent Procedure 3 | Concurrent Procedure 4 | | NULL = No Procedure |
| 127 | CONCPT3 | Char | Concurrent CPT 3 | Concurrent CPT 4 | | NULL = No Procedure |
| 128 | CONWRVU3 | Num | Concurrent Work Relative Value Unit 3 | Concurrent Work Relative Value Unit 4 | | -99 = No Procedure/Unknown |
| 129 | CONCURR4 | Char | Concurrent Procedure 4 | Concurrent Procedure 5 | | NULL = No Procedure |
| 130 | CONCPT4 | Char | Concurrent CPT 4 | Concurrent CPT 5 | | NULL = No Procedure |
| 131 | CONWRVU4 | Num | Concurrent Work Relative Value Unit 4 | Concurrent Work Relative Value Unit 5 | | -99 = No Procedure/Unknown |
| 132 | CONCURR5 | Char | Concurrent Procedure 5 | Concurrent Procedure 6 | | NULL = No Procedure |
| 133 | CONCPT5 | Char | Concurrent CPT 5 | Concurrent CPT 6 | | NULL = No Procedure |
| 134 | CONWRVU5 | Num | Concurrent Work Relative Value Unit 5 | Concurrent Work Relative Value Unit 6 | | -99 = No Procedure/Unknown |
| 135 | CONCURR6 | Char | Concurrent Procedure 6 | Concurrent Procedure 7 | | NULL = No Procedure |
| 136 | CONCPT6 | Char | Concurrent CPT 6 | Concurrent CPT 7 | | NULL = No Procedure |
| 137 | CONWRVU6 | Num | Concurrent Work Relative Value Unit 6 | Concurrent Work Relative Value Unit 7 | | -99 = No Procedure/Unknown |
| 138 | CONCURR7 | Char | Concurrent Procedure 7 | Concurrent Procedure 8 | | NULL = No Procedure |
| 139 | CONCPT7 | Char | Concurrent CPT 7 | Concurrent CPT 8 | | NULL = No Procedure |
| 140 | CONWRVU7 | Num | Concurrent Work Relative Value Unit 7 | Concurrent Work Relative Value Unit 8 | | -99 = No Procedure/Unknown |
| 141 | CONCURR8 | Char | Concurrent Procedure 8 | Concurrent Procedure 9 | | NULL = No Procedure |
| 142 | CONCPT8 | Char | Concurrent CPT 8 | Concurrent CPT 9 | | NULL = No Procedure |
| 143 | CONWRVU8 | Num | Concurrent Work Relative Value Unit 8 | Concurrent Work Relative Value Unit 9 | | -99 = No Procedure/Unknown |
| 144 | CONCURR9 | Char | Concurrent Procedure 9 | Concurrent Procedure 10 | | NULL = No Procedure |
| 145 | CONCPT9 | Char | Concurrent CPT 9 | Concurrent CPT 10 | | NULL = No Procedure |
| 146 | CONWRVU9 | Num | Concurrent Work Relative Value Unit 9 | Concurrent Work Relative Value Unit 10 | | -99 = No Procedure/Unknown |

| Position # | Variable Name | Data Type | Variable Label | Variable Definition | Variable Options at Entry | Comments |
|------------|---------------|-----------|--|--|---|--|
| 147 | CONCURR10 | Char | Concurrent Procedure 10 | Concurrent Procedure 11 | | NULL = No Procedure |
| 148 | CONCPT10 | Char | Concurrent CPT 10 | Concurrent CPT 11 | | NULL = No Procedure |
| 149 | CONWRVU10 | Num | Concurrent Work Relative Value Unit 10 | Concurrent Work Relative Value Unit 11 | | -99 = No Procedure/Unknown |
| 150 | OPNOTE | Char | Surgeon who dictated the operative note. | Surgeon who dictated the operative note. | Attending Resident Not Available | Historical variable, no longer used |
| 151 | PGY | Num | Highest Level of Resident Surgeon | Report the highest Post-Graduate Year (PGY) of the resident(s) who scrubbed for the surgical procedure. Choose from 1 – 10. Enter '0' if there is no resident scrubbed on the surgical procedure. | 0-10 | -99 = Unknown |
| 152 | EMERGNCY | Char | Emergency case | "YES" if the surgeon and anesthesiologist report the case as emergent. An emergency case is usually performed as soon as possible and no later than 12 hours after the patient has been admitted to the hospital or after the onset of related preoperative symptomatology. If there is disagreement between the surgeon and anesthesiologist in documentation, or if only one documents the case as emergent, then (1) The clinical picture is reviewed (2) The operative report, including intraoperative nursing notes is reviewed (3) The time frame from admission or onset of symptoms to the time the patient was brought to the OR is assessed. After completing steps 1-3, the best clinical judgment is used to determine if the case is emergent. | Yes; No | NULL = Unknown Definition revised or clarified from 2010 |
| 153 | WNDCLAS | Char | Wound classification | Wound classification should be assigned based on the primary principal procedure being performed. Wound class is not assigned based on an 'other' or 'concurrent' procedure. This variable indicates whether the primary surgeon has classified the wound as: (1) Clean: An uninfected operative wound in which no inflammation is encountered and the respiratory, alimentary, genital, or | 1-Clean 2-Clean/Contaminated 3-Contaminated | NULL = Unknown Definition revised or clarified from 2010 |

| Position # | Variable Name | Data Type | Variable Label | Variable Definition | Variable Options at Entry | Comments |
|------------|---------------|-----------|--------------------|--|--|-------------------------------------|
| | | | | uninfected urinary tract is not entered. In addition, clean wounds are primarily closed and, if necessary, drained with closed drainage. Operative incisional wounds that follow nonpenetrating (blunt) trauma should be included in this category if they meet the criteria. <i>Examples of "Clean" cases include mastectomy, vascular bypass graft, exploratory laparotomy, hernia repair, thyroidectomy, total hip or knee replacement, total hip replacements for avascular necrosis, removal of 'old' hardware without evidence of infection. Note: Placement of any drain at the time of surgery does not change the classification of the wound. (2) Clean/Contaminated:</i> An operative wound in which the respiratory, alimentary, genital, or urinary tracts are entered under controlled conditions and without unusual contamination. Specifically, operations involving the biliary tract, appendix, vagina, and oropharynx are included in this category, provided no evidence of infection or major break in technique is encountered. <i>Examples of "Clean/Contaminated" cases include cholecystectomy, colectomy, colostomy reversals, roux-en-Y, laryngectomy, small bowel resection, transurethral resection of the prostate, Whipple pancreaticoduodenectomy. (3) Contaminated:</i> Open, fresh, accidental wounds. In addition, operations with major breaks in sterile technique or gross spillage from the gastrointestinal tract, and incisions in which acute, nonpurulent inflammation is encountered including necrotic tissue without evidence of purulent drainage (e.g. dry gangrene) are included in this category. <i>Examples of "Contaminated" cases include appendectomy for inflamed appendicitis, bile spillage during cholecystectomy, or open cardiac massage. Examples of major break in sterile technique include but are not limited to non-sterile equipment or debris found in the operative field. (4) Dirty/Infected:</i> Old traumatic wounds with retained devitalized tissue and those that involve existing clinical infection or perforated viscera. This definition suggests that the organisms causing postoperative infection were present in the operative field before the operation. | 4-Dirty/Infected | |
| 154 | ASACLAS | Char | ASA classification | The American Society of Anesthesiology (ASA) Physical Status Classification of the patient's present physical condition on a scale from 1-5 as it appears on the anesthesia record. The classifications are as follows: ASA 1 -Normal healthy patient ASA 2 -Patient with mild systemic disease ASA 3 -Patient with severe systemic disease ASA 4 -Patient with severe systemic disease that is a constant threat to life ASA 5 -Moribund patient who is not expected to survive without the operation. | 1 -No Disturb 2 -Mild Disturb 3 -Severe Disturb 4 -Life Threat 5 -Moribund None assigned | NULL= Unknown |
| 155 | AIRTRA | Char | Airway trauma | The code corresponding to trauma resulting from the endotracheal intubation process is entered. | None Lip laceration or hematoma Tooth chipped, loosened or lost Tongue laceration or hematoma Pharyngeal laceration Laryngeal laceration Failure to intubate | Historical variable, no longer used |
| 156 | MALLAMP | Num | Mallampati scale | The Mallampati classification relates tongue size to pharyngeal size. This test is performed with the patient in sitting position, the head held in a neutral position, the mouth wide open, and the tongue protruding to the maximum. The subsequent classification is assigned based upon the pharyngeal structures that are visible: Class I – visualization of the soft palate, fauces, uvula, and anterior and posterior pillars. Class II – visualization of the soft palate, fauces, and uvula. Class III – visualization of the soft palate and the base of the uvula. Class IV – soft palate is not visible at all. | 1; 2; 3; 4 | Historical variable, no longer used |

| Position # | Variable Name | Data Type | Variable Label | Variable Definition | Variable Options at Entry | Comments |
|------------|---------------|-----------|---|---|---|--|
| 157 | MORTPROB | Num | Estimated Probability of Mortality | Probability of mortality is developed for general and vascular surgical cases based on a logistic regresion analysis using the patient's preopeartive characteristics as the independent or predictive variables. Only general and | | System missing = case was not included in the logistic regression analysis |
| 158 | MORBPBROB | Num | Estimated Probability of Morbidity | Probability of morbidity is developed for general and vascular surgical cases based on a logistic regresion analysis using the patient's preopeartive characteristics as the independent or predictive variables. Only the general and vascular cases used in the logistic regression analysis will have the associated probabilities of morbidity. | | System missing = case was not included in the logistic regression analysis |
| 159 | RBC | Num | Number of RBC units given intraoperative | The number of packed or whole red blood cells given during the operative procedure as it appears on the anesthesia record. The amount of blood reinfused from the cell saver is also noted. For a cell saver, every 500 cc's of fluid will equal 1 unit of packed cells. If there is less than 250 cc of fluid, 0 is entered. | | Historical variable, no longer used |
| 160 | ANESURG | Num | Duration from Anesthesia start to Surgery start | Duration from Anesthesia start to Surgery start in minutes | | -99 = Unknown |
| 161 | SURGANE | Num | Duration from Surgery stop to Anesthesia Stop | Duration from Surgery stop to Anesthesia Stop in minutes | | -99 = Unknown |
| 162 | DPATRM | Num | Duration patient is in Room | Duration patient is in Room in minutes | | -99 = Unknown |
| 163 | ANETIME | Num | Duration of Anesthesia | Duration of Anesthesia in minutes | | -99 = Unknown |
| 164 | OPTIME | Num | Total operation time | Total operation time in minutes | | -99 = Unknown |
| 165 | TYPEINTOC | Char | Type of Intraoperative Occurrence | One of the three following intraoperative occurrences can be selected. Cardiac Arrest Requiring CPR is defined as the absence of cardiac rhythm or presence of chaotic cardiac rhythm that results in loss of consciousness requiring the initiation of any component of basic and/or advanced cardiac life support. | Cardiac Arrest Requiring CPR Myocardial Infarction Unplanned Intubation | NULL = None of the three occurred |
| | | | | | | |
| | | | | | | |
| 166 | SDISDT | Num | Year discharged/transferred from surgical service | Year discharged/transferred from surgical service | | Historical variable, no longer used |
| 167 | HDISDT | Num | Hospital discharge Year | Hospital discharge Year | | |
| 168 | YRDEATH | Num | Year of death | Year of death | | -99 = Patient alive at 30 days |
| 169 | TOTHLOS | Num | Length of total hospital stay | Length of total hospital stay | | |
| 170 | AdmQtr | Num | Quarter of Admission | Quarter of Admission | 1; 2; 3; 4 | -99 = Unknown |
| 171 | HtoODay | Num | Days from Hospital Admission to Operation | Days from Hospital Admission to Operation | | -99 = Unknown |
| 172 | StoODay | Num | Days from Surgical Admission to Operation | Days from Surgical Admission to Operation | | Historical variable, no longer used |
| 173 | TOTSLOS | Num | Length of total surgical stay | Length of total surgical stay | | Historical variable, no longer used |
| 174 | NSUPINFEC | Num | Number of Wound Occurrences | Number of Superficial Wound Occurrences | | |
| 175 | SUPINFEC | Char | Superficial surgical site infection | Superficial incisional SSI is an infection that occurs within 30 days after the operation and the infection involves only skin or subcutaneous tissue of the incision and at least one of the following: -Purulent drainage, with or without laboratory confirmation, from the superficial incision. -Organisms isolated from an aseptically obtained culture of fluid or tissue from the superficial incision. -At least one of the following signs or symptoms of infection: pain or tenderness, localized swelling, redness, or heat AND superficial incision is deliberately opened by the surgeon, unless incision is culture-negative. -Diagnosis of superficial incisional SSI by the surgeon or attending physician. Do not report the following conditions as SSI: -Stitch abscess (minimal inflammation and discharge confined to the points of suture penetration). -Infected burn wound. -Incisional SSI that extends into the fascial and muscle layers (see deep incisional SSI). | No Complication; Superficial Incisional SSI | |

| Position # | Variable Name | Data Type | Variable Label | Variable Definition | Variable Options at Entry | Comments |
|------------|---------------|-----------|---|---|--------------------------------------|--|
| 176 | SSSIPATOS | Char | Superficial Incisional SSI PATOS | If a 'Superficial Incisional SSI' is noted as a postoperative outcome, and an open wound, cellulitis (erythema, tenderness AND swelling), or wound infection was noted preoperatively or intraoperatively at the surgical site at the time of surgery; select 'YES'. | Yes; No | NULL = No response Variable added in 2011 |
| 177 | DSUPINFEC | Num | Days from Operation until Superficial Incisional SSI Complication | Days from Operation until Superficial Incisional SSI Complication | | -99 = Patient did not experience this complication at or before 30 days post operation |
| 178 | NWNDINFD | Num | Number of Deep Incisional SSI Occurrences | Number of Deep Incisional SSI Occurrences | | |
| 179 | WNDINFD | Char | Occurrences Deep Incisional SSI | Deep Incision SSI is an infection that occurs within 30 days after the operation and the infection appears to be related to the operation and infection involved deep soft tissues (e.g., fascial and muscle layers) of the incision and at least one of the following: -Purulent drainage from the deep incision but not from the organ/space component of the surgical site. -A deep incision spontaneously dehisces or is deliberately opened by a surgeon when the patient has at least one of the following signs or symptoms: fever (> 38 C), localized pain, or tenderness, unless site is culture-negative. -An abscess or other evidence of infection involving the deep incision is found on direct examination, during reoperation, or by histopathologic or radiologic examination. -Diagnosis of a deep incision SSI by a surgeon or attending physician. Note: -Infection that involves both superficial and deep incision sites is reported as deep incisional SSI. -An organ/space SSI that drains through the incision is reported as a deep incisional SSI. | Deep Incisional SSI; No Complication | |
| 180 | DSSIPATOS | Char | Deep Incisional SSI PATOS | If a 'Deep Incisional SSI' is noted as a postoperative outcome, and an open wound, cellulitis (erythema, tenderness AND swelling) or infection was noted preoperatively or intraoperatively at the surgical site at the time of surgery; select 'YES'. | Yes; No | NULL = No response Variable added in 2011 |
| 181 | DWNDINFD | Num | Days from Operation until Deep Incisional SSI Complication | Days from Operation until Deep Incisional SSI Complication | | -99 = Patient did not experience this complication at or before 30 days post operation |
| 182 | NORGSPCSSI | Num | Number of Organ/Space SSI Occurrences | Number of Organ/Space SSI Occurrences | | |
| 183 | ORGSPCSSI | Char | Occurrences Organ Space SSI | Organ/Space SSI is an infection that occurs within 30 days after the operation and the infection appears to be related to the operation and the infection involves any part of the anatomy (e.g., organs or spaces), other than the incision, which was opened or manipulated during an operation and at least one of the following: -Purulent drainage from a drain that is placed through a stab wound into the organ/space. -Organisms isolated from an aseptically obtained culture of fluid or tissue in the organ/space. -An abscess or other evidence of infection involving the organ/space that is found on direct examination, during reoperation, or by histopathologic or radiologic examination. -Diagnosis of an organ/space SSI by a surgeon or attending physician. | Organ/Space SSI; No Complication | |
| 184 | OSSIPATOS | Char | Organ/Space SSI PATOS | If an 'Organ / Space SSI' is noted as a postoperative outcome, and an abscess or other evidence of infection involving the organ/space was noted preoperatively or intraoperatively at the surgical area at the time of surgery; select 'YES' for this variable. | Yes; No | NULL = No response Variable added in 2011 |

| Position # | Variable Name | Data Type | Variable Label | Variable Definition | Variable Options at Entry | Comments |
|------------|---------------|-----------|---|--|-----------------------------------|--|
| 185 | DORGSPCSSI | Num | Days from Operation until Organ/Space SSI Complication | Days from Operation until Organ/Space SSI Complication | | -99 = Patient did not experience this complication at or before 30 days post operation |
| 186 | NDEHIS | Num | Number of Wound Disruption Occurrences | Number of Wound Disruption Occurrences | | |
| 187 | DEHIS | Char | Occurrences Wound Disrupt | Separation of the layers of a surgical wound, which may be partial or complete, with disruption of the fascia within 30 days of the operation. | Wound Disruption; No complication | |
| 188 | DDEHIS | Num | Days from Operation until Wound Disruption Complication | Days from Operation until Wound Disruption Complication | | -99 = Patient did not experience this complication at or before 30 days post operation |
| 189 | NOUPNEUMO | Num | Number of Pneumonia Occurrences | Number of Pneumonia Occurrences | | |
| 190 | OUPNEUMO | Char | Occurrences Pneumonia | <p>Enter "Yes" if the patient has pneumonia meeting the definition below. Patients with pneumonia <i>must meet criteria from both <u>Radiology</u> and <u>Signs/Symptoms/Laboratory</u></i> sections listed as follows:</p> <p>Radiology: One definitive chest radiological exam (x-ray or CT)* with at least one of the following: •New or progressive and persistent infiltrate •Consolidation or opacity •Cavitation</p> <p>Note: In patients with underlying pulmonary or cardiac disease (e.g. respiratory distress syndrome, bronchopulmonary dysplasia, pulmonary edema, or chronic obstructive pulmonary disease), <u>two or more serial chest radiological exams (x-ray or CT)</u> are required. (Serial radiological exams should be taken no less than 12 hours apart, but not more than 7 days apart. The occurrence should be assigned on the date the patient first met all of the criteria of the definition (i.e., if the patient meets all PNA criteria on the day of the first xray, assign this date to the occurrence. Do not assign the date of the occurrence to when the second serial xray was performed).</p> <p>Signs/Symptoms/Laboratory: FOR ANY PATIENT, at least one of the following: •Fever (>38 C or >100.4 F) with no other recognized cause •Leukopenia (<4000 WBC/mm3) or leukocytosis (≥12,000 WBC/mm3) •For adults ≥ 70 years old, altered mental status with no other recognized cause</p> <p>And At least one of the following: •5% Bronchoalveolar lavage (BAL) -obtained cells contain intracellular bacteria on direct microscopic exam (e.g., Gram stain) •Positive growth in blood culture not related to another source of infection •Positive growth in culture of pleural fluid •Positive quantitative culture from minimally contaminated lower respiratory tract (LRT) specimen (e.g. BAL or protected specimen brushing)</p> <p>OR</p> <p>At least two of the following:</p> | Pneumonia; No complication | Definition revised or clarified from 2010 |
| 191 | PNAPATOS | Char | Pneumonia PATOS | If pneumonia is noted as a postoperative outcome, and documented as a preoperative risk factor; select 'YES' for this variable. Also, select 'YES' (for PATOS only) if preoperative data are highly suggestive or suspicious of pneumonia. | Yes; No | NULL = No response Variable added in 2011 |

| Position # | Variable Name | Data Type | Variable Label | Variable Definition | Variable Options at Entry | Comments |
|------------|---------------|-----------|---|---|--|--|
| 192 | DOUPNEUMO | Num | Days from Operation until Pneumonia Complication | Days from Operation until Pneumonia Complication | | -99 = Patient did not experience this complication at or before 30 days post operation (One case with a pneumonia complication had an unknown date within 30 days and thus the duration was set to -99) |
| 193 | NREINTUB | Num | Number of Unplanned Intubation Occurrences | Number of Unplanned Intubation Occurrences | | |
| 194 | REINTUB | Char | Occurrences Unplanned Intubation | Patient required placement of an endotracheal tube and mechanical or assisted ventilation because of the onset of respiratory or cardiac failure manifested by severe respiratory distress, hypoxia, hypercarbia, or respiratory acidosis within 30 days of the operation. In patients who were intubated for their surgery, unplanned intubation occurs after they have been extubated after surgery. In patients who were not intubated during surgery, intubation at any time after their surgery is considered unplanned. | Unplanned Intubation; No Complication | |
| 195 | DREINTUB | Num | Days from Operation until Unplanned Intubation Complication | Days from Operation until Unplanned Intubation Complication | | -99 = Patient did not experience this complication at or before 30 days post operation |
| 196 | NPULEMBOL | Num | Number of Pulmonary Embolism Occurrences | Number of Pulmonary Embolism Occurrences | | |
| 197 | PULEMBOL | Char | Occurrences Pulmonary Embolism | Lodging of a blood clot in a pulmonary artery with subsequent obstruction of blood supply to the lung parenchyma. The blood clots usually originate from the deep leg veins or the pelvic venous system. "Yes" is entered if the patient has a V-Q scan interpreted as high probability of pulmonary embolism or a positive CT spiral exam, TEE, pulmonary arteriogram or CT angiogram. Treatment usually consists of: -Initiation of anticoagulation therapy -Placement of mechanical interruption (e.g. Greenfield Filter), for patients whom anticoagulation is contraindicated or already instituted. | Pulmonary Embolism; No Complication | Definition revised or clarified from 2010 |
| 198 | DPULEMBOL | Num | Days from Operation until Pulmonary Embolism Complication | Days from Operation until Pulmonary Embolism Complication | | -99 = Patient did not experience this complication at or before 30 days post operation |
| 199 | NFAILWEAN | Num | Number of On Ventilator > 48 Hours Occurrences | Number of On Ventilator > 48 Hours Occurrences | | |
| 200 | FAILWEAN | Char | Occurrences Ventilator > 48Hours | Total duration of ventilator-assisted respirations during postoperative hospitalization was greater than 48 hours. This can occur at any time during the 30-day period postoperatively. This time assessment is CUMULATIVE, not necessarily consecutive. Ventilator-assisted respirations can be via endotracheal tube, nasotracheal tube, or tracheostomy tube. | On Ventilator greater than 48 Hours; No Complication | |
| 201 | VENTPATOS | Char | On Ventilator > 48 Hours PATOS | If 'On Ventilator > 48 hours' is selected as a postoperative outcome, and patient is intubated prior to arrival to the OR; select 'YES'. | Yes; No | NULL = No response Variable added in 2011 |
| 202 | DFAILWEAN | Num | Days from Operation until On Ventilator > 48 Hours Complication | Days from Operation until On Ventilator > 48 Hours Complication | | -99 = Patient did not experience this complication at or before 30 days post operation (One case with a fail to wean complication had an unknown date within 30 days and thus the duration was set to -99) |
| 203 | NRENAINSF | Num | Number of Progressive Renal Insufficiency Occurrences | Number of Progressive Renal Insufficiency Occurrences | | |

| Position # | Variable Name | Data Type | Variable Label | Variable Definition | Variable Options at Entry | Comments |
|------------|---------------|-----------|--|---|--|---|
| 204 | RENAINSF | Char | Occurrences Progressive Renal Insufficiency | The reduced capacity of the kidney to perform its function as evidenced by a rise in creatinine of >2 mg/dl from preoperative value, but with no requirement for dialysis within 30 days of the operation. | Progressive Renal Insufficiency; No Complication | |
| 205 | DRENAINSF | Num | Days from Operation until Progressive Renal Insufficiency Complication | Days from Operation until Progressive Renal Insufficiency Complication | | -99 = Patient did not experience this complication at or before 30 days post operation |
| 206 | NOPRENAFL | Num | Number of Acute Renal Failure Occurrences | Number of Acute Renal Failure Occurrences | | |
| 207 | OPRENAFL | Char | Occurrences Acute Renal Fail | In a patient who did not require dialysis preoperatively, worsening of renal dysfunction postoperatively requiring hemodialysis, peritoneal dialysis, hemofiltration, hemodiafiltration, or ultrafiltration within 30 days of the operation. | Acute Renal Failure; No Complication | |
| 208 | DOPRENAFL | Num | Days from Operation until Acute Renal Failure Complication | Days from Operation until Acute Renal Failure Complication | | -99 = Patient did not experience this complication at or before 30 days post operation |
| 209 | NURNINFEC | Num | Number of Urinary Tract infection Occurrences | Number of Urinary Tract infection Occurrences | | |
| 210 | URNINFEC | Char | Occurrences Urinary Tract Infection | Postoperative symptomatic urinary tract infection must meet one of the following TWO criteria within 30 days of the operation: 1. One of the following: . fever (>38 degrees C) . urgency . frequency . dysuria . suprapubic tenderness AND a urine culture of > 10 ⁵ colonies/ml urine with no more than two species of organisms OR 2. Two of the following: . fever (>38 degrees C) . urgency . frequency . dysuria . suprapubic tenderness AND any of the following: -Dipstick test positive for leukocyte esterase and/or nitrate -Pyuria (>10 WBCs/cc or > 3 WBC/hpf of unspun urine) -Organisms seen on Gram stain of unspun urine - Two urine cultures with repeated isolation of the same uropathogen with >10 ⁵ colonies/ml urine in non-voided specimen -Urine culture with < 10 ⁵ colonies/ml urine of single uropathogen in patient being treated with appropriate antimicrobial therapy -Physician's diagnosis -Physician institutes appropriate antimicrobial therapy. | Urinary Tract Infection; No Complication | |
| 211 | UTIPATOS | Char | UTI PATOS | If a UTI is noted as a postoperative outcome, and there was any preoperative evidence of a symptomatic UTI (that had not started treatment or is currently undergoing treatment) or preoperative evidence was highly suggestive or suspicious of a UTI at the time of surgery; select 'YES'. | Yes; No | NULL = No Response Variable added in 2011 |
| 212 | DURNINFEC | Num | Days from Operation until Urinary Tract Infection Complication | Days from Operation until Urinary Tract Infection Complication | | -99 = Patient did not experience this complication at or before 30 days post operation (One case with a UTI complication had an unknown date within 30 days and thus the duration was set to -99) |
| 213 | NCNSCVA | Num | Number of Stroke/CVA Occurrences | Number of Stroke/CVA Occurrences | | |
| 214 | CNSCVA | Char | CVA/Stroke with neurological deficit | Patient develops an embolic, thrombotic, or hemorrhagic vascular accident or stroke with motor, sensory, or cognitive dysfunction (e.g., hemiplegia, hemiparesis, aphasia, sensory deficit, impaired memory) that persists for 24 or more hours. If a specific time frame for the dysfunction is not documented in the medical record, but there is a diagnosis of a stroke, assign the occurrence, unless documentation specifically states that the motor, sensory, or cognitive dysfunction resolved. | Stroke/CVA; No Complication | Definition revised or clarified from 2010 |

| Position # | Variable Name | Data Type | Variable Label | Variable Definition | Variable Options at Entry | Comments |
|------------|---------------|-----------|---|--|---|--|
| 215 | DCNSCVA | Num | Days from Operation until Stroke/CVA Complication | Days from Operation until Stroke/CVA Complication | | -99 = Patient did not experience this complication at or before 30 days post operation |
| 216 | NCNSCOMA | Num | Number of Coma > 24 Hours Occurrences | Number of Coma > 24 Hours Occurrences | | |
| 217 | CNSCOMA | Char | Coma >24 hours | Patient is unconscious, or postures to painful stimuli, or is unresponsive to all stimuli (exclude transient disorientation or psychosis) for greater than 24 hours. Drug-induced coma (e.g. Propofol drips) are not entered within 30 days of the operation. | Coma greater than 24 hours; No Complication | |
| 218 | DCNSCOMA | Num | Days from Operation until Coma > 24 Hours Complication | Days from Operation until Coma > 24 Hours Complication | | -99 = Patient did not experience this complication at or before 30 days post operation |
| 219 | NNEURODEF | Num | Number of Peripheral Nerve Injury Occurrences | Number of Peripheral Nerve Injury Occurrences | | |
| 220 | NEURODEF | Char | Peripheral Nerve Injury | Peripheral nerve damage may result from damage to the nerve fibers, cell body, or myelin sheath during surgery. Peripheral nerve injuries which result in motor deficits to the cervical plexus, brachial plexus, ulnar plexus, lumbar-sacra plexus (sciatic nerve), peroneal nerve, and/or the femoral nerve should be included. | Peripheral nerve injury ; No Complication | |
| 221 | DNEURODEF | Num | Days from Operation until Peripheral Nerve Injury Complication | Days from Operation until Peripheral Nerve Injury Complication | | -99 = Patient did not experience this complication at or before 30 days post operation |
| 222 | NCDARREST | Num | Number of Cardiac Arrest Requiring CPR Occurrences | Number of Cardiac Arrest Requiring CPR Occurrences | | |
| 223 | CDARREST | Char | Occurrences Cardiac Arrest Requiring CPR | The absence of cardiac rhythm or presence of chaotic cardiac rhythm which results in a cardiac arrest requiring the initiation of CPR, which includes chest compressions. Patients are included who are in a pulseless VT or Vfib in which defibrillation is performed and PEA arrests requiring chest compressions. Patients with automatic implantable cardioverter defibrillator (AICD) that fire but the patient has no loss of consciousness should be excluded. | Cardiac Arrest Requiring CPR; No Complication | Definition revised or clarified from 2010 |
| 224 | DCDARREST | Num | Days from Operation until Cardiac Arrest Requiring CPR Complication | Days from Operation until Cardiac Arrest Requiring CPR Complication | | -99 = Patient did not experience this complication at or before 30 days post operation |
| 225 | NCDMI | Num | Number of Myocardial Infarction Occurrences | Number of Myocardial Infarction Occurrences | | |
| 226 | CDMI | Char | Occurrences Myocardial Infarction | A new transmural acute myocardial infarction occurring during surgery or within 30 days as manifested by new Q-waves on ECG. | Myocardial Infarction; No Complication | |
| 227 | DCDMI | Num | Days from Operation until Myocardial Infarction Complication | Days from Operation until Myocardial Infarction Complication | | -99 = Patient did not experience this complication at or before 30 days post operation |
| 228 | NOTHBLEED | Num | Number of Bleeding Transfusions Occurrences | Number of Bleeding Transfusions Occurrences | | |
| 229 | OTHBLEED | Char | Occurrences Bleeding Transfusions | Any transfusion (including autologous) of packed red blood cells or whole blood given from the time the patient leaves the operating room up to and including 72 hours postoperatively. Bleeding Transfusion entered for five or more units of packed red blood cell units in the postoperative period including hanging blood from the OR that is finished outside of the OR. If the patient receives shed blood, autologous blood, cell saver blood or pleurovac postoperatively, this is counted if greater than four units. The blood may be given for any reason. | Transfusions/Intraop/Postop; No Complication | Definition change from 2009 |

| Position # | Variable Name | Data Type | Variable Label | Variable Definition | Variable Options at Entry | Comments |
|------------|---------------|-----------|--|---|--|--|
| 230 | DOTHBLEED | Num | Days from Operation until Bleeding Transfusions Complication | Days from Operation until Bleeding Transfusions Complication | | -99 = Patient did not experience this complication at or before 30 days post operation (One case which had a Bleeding Transfusion complication had an unknown date and thus the duration was set to -99) |
| 231 | NOTHGRAFL | Num | Number of Graft/Prosthesis/Flap Failure Occurrences | Number of Graft/Prosthesis/Flap Failure Occurrences | | |
| 232 | OTHGRAFL | Char | Occurrences Graft/Prosthesis/FF | Mechanical failure of an extracardiac graft or prosthesis including myocutaneous flaps and skin grafts requiring return to the operating room, interventional radiology, or a balloon angioplasty within 30 days of the operation. | Graft/Prosthesis/Flap Failure; No Complication | |
| 233 | DOTHGRAFL | Num | Days from Operation until Graft/Prosthesis/Flap Failure Complication | Days from Operation until Graft/Prosthesis/Flap Failure Complication | | -99 = Patient did not experience this complication at or before 30 days post operation |
| 234 | NOTHDVT | Num | Number of DVT/Thrombophlebitis Occurrences | Number of DVT/Thrombophlebitis Occurrences | | |
| 235 | OTHDVT | Char | Occurrences DVT/Thrombophlebitis | The identification of a new blood clot or thrombus within the venous system, which may be coupled with inflammation. The clot can be described in studies as present in the superficial or deep venous systems but requires therapy. This diagnosis is confirmed by a duplex, venogram or CT scan, AND the patient <u>must be treated</u> with anticoagulation therapy and/or placement of vena cava filter or clipping of the vena cava. Examples of clots that should be considered for this variable include internal jugular (IJ) line clots, PICC line clots and those found in the abdomen (portal vein). | DVT Requiring Therapy; No Complication | Definition revised or clarified from 2010 |
| 236 | DOTHDVT | Num | Days from Operation until DVT/Thrombophlebitis Complication | Days from Operation until DVT/Thrombophlebitis Complication | | -99 = Patient did not experience this complication at or before 30 days post operation |
| 237 | NOTHSYSEP | Num | Number of Sepsis Occurrences | Number of Sepsis Occurrences | | |

| Position # | Variable Name | Data Type | Variable Label | Variable Definition | Variable Options at Entry | Comments |
|------------|---------------|-----------|--------------------|---|---------------------------|---|
| 238 | OTHSYSEP | Char | Occurrences Sepsis | <p>Sepsis is a vast clinical entity that takes a variety of forms. The spectrum of disorders spans from relatively mild physiologic abnormalities to septic shock. Please report the most significant level using the criteria below:</p> <p>1.Sepsis: Sepsis is the systemic response to infection. Report this variable if the patient has two of the following clinical signs and symptoms of SIRS:</p> <ul style="list-style-type: none"> *Temp >38o C (100.4 o F) or < 36 o C (96.8 o F) *HR >90 bpm *RR >20 breaths/min or PaCO2 <32 mmHg(<4.3 kPa) *WBC >12,000 cell/mm3, <4000 cells/mm3, or >10% immature (band) forms <p>*Anion gap acidosis: this is defined by either: [Na + K] – [Cl + HCO3 (or serum CO2)]. If this number is greater than 16, then an anion gap acidosis is present. Na – [Cl + HCO3 (or serum CO2)]. If this number is greater than 12, then an anion gap acidosis is present.</p> <p>And one of the following:</p> <ul style="list-style-type: none"> *positive blood culture *clinical documentation of purulence or positive culture from any site thought to be causative <p>In addition, a patient with a suspected post-operative clinical condition of infection, or bowel infarction, (which leads to the surgical procedure and meets the criteria for SIRS above), the findings at operation must confirm the diagnosis with one of more of the following:</p> <ul style="list-style-type: none"> *Confirmed infarcted bowel requiring resection *Purulence in the operative site *Enteric contents in the operative site, or *Positive intra-operative cultures <p>2. Septic Shock: Sepsis is considered severe when it is associated with organ and/or circulatory dysfunction. Report this variable if the patient has sepsisAND documented organ and/or circulatory dysfunction. Examples of organ dysfunction include: oliguria, acute alteration in mental status, acute respiratory distress. Examples of circulatory dysfunction include: hypotension, requirement of inotropic or vasopressor agents. Septic Shock is assigned when it appears to be related to Sepsis and not a Cardiogenic or Hypovolemic etiology</p> | Sepsis; No Complication | Definition revised or clarified from 2010 |

| Position # | Variable Name | Data Type | Variable Label | Variable Definition | Variable Options at Entry | Comments |
|------------|---------------|-----------|---|---|-------------------------------|--|
| 239 | DOTHSYSEP | Num | Days from Operation until Sepsis Complication | Days from Operation until Sepsis Complication | | -99 = Patient did not experience this complication at or before 30 days post operation |
| 240 | NOTHSESHOCK | Num | Number of Septic Shock Occurrences | Number of Septic Shock Occurrences | | |
| 241 | OTHSESHOCK | Char | Occurrences Septic Shock | For Sepsis and Septic Shock within 30 days of the operation, please report the most significant level using the criteria that follow. Severe Sepsis/Septic Shock: Sepsis is considered severe when it is associated with organ and/or circulatory dysfunction. Report this variable if the patient has the clinical signs and symptoms of SIRS or sepsis AND documented organ and/or circulatory dysfunction. Examples of organ dysfunction include: oliguria, acute alteration in mental status, acute respiratory distress. Examples of circulatory dysfunction include: hypotension, requirement of inotropic or vasopressor agents. For the patient that had sepsis preoperatively, worsening of any of the above signs postoperatively would be reported as a postoperative sepsis. | Septic Shock; No Complication | |
| 242 | DOTHSESHOCK | Num | Days from Operation until Septic Shock Complication | Days from Operation until Septic Shock Complication | | -99 = Patient did not experience this complication at or before 30 days post operation |
| 243 | PODIAG | Char | Post-op diagnosis (ICD 9) | The appropriate ICD-9-CM code corresponding to the condition noted as the postoperative diagnosis in the brief operative note, operative report, and/or after the return of the pathology reports are entered. | | |
| 244 | PODIAGTX | Char | Post-op Diagnosis Text | Post-op Diagnosis text | | |
| 245 | RETURNOR | Char | Return to OR | Returns to the operating room within 30 days include all major surgical procedures that required the patient to be taken to the surgical operating room for intervention of any kind. "Major surgical procedures" are defined as those cases in any and all surgical subspecialties that meet Program criteria for inclusion. | Yes; No | |

| Position # | Variable Name | Data Type | Variable Label | Variable Definition | Variable Options at Entry | Comments |
|------------|-------------------|-----------|---|---|---------------------------|---|
| 246 | DSDtoHD | Num | Days from Surgical Discharge (Acute Care Discharge) to Hospital Discharge | Days from Surgical Discharge to Hospital Discharge | | Historical variable, no longer used |
| 247 | DOpertoD | Num | Days from Operation to Death | Days from Operation to Death | | -99 = Patient did not die at or before 30 days post operation |
| 248 | DOptoDis | Num | Days from Operation to Discharge | Days from Operation to Discharge | | -99 = Unknown |
| 249 | STILLINHOSP | Char | Still in Hospital > 30 Days | "Yes" is entered if patient has a continuous stay in the acute care setting > 30 days after the surgery. However, if the patient was discharged from the acute care setting, but remained in the hospital (rehab or hospice unit), then "NO" is entered, since the stay in the acute care setting was no longer continuous. | | NULL = No Response Variable added in 2011 |
| 250 | READMISSION | Char | Readmission | "Yes" is entered for any readmission (to the same or another hospital), for any reason, within 30 days of the principal surgical procedure. The readmission has to be classified as an "inpatient" stay by the readmitting hospital, or reported by the patient/family as such. | Yes; No | NULL = No Response Variable added in 2011 |
| 251 | UNPLANREADMISSION | Char | Unplanned Readmission | "Yes" is entered for any unplanned readmission (to the same or another hospital) for a post operative occurrence likely related to the principal surgical procedure within 30 days of the procedure. | Yes; No | NULL = No Response Variable added in 2011 |
| 252 | REOPERATION | Char | Unplanned Reoperation | "Yes" is entered if the patient had an unplanned return to the operating room for a surgical procedure related to either the index or concurrent procedure performed. This return must be within the 30 day postoperative period. The return to the OR may occur at any hospital or surgical facility (i.e. your hospital or at an outside hospital). Note: This definition is not meant to capture patients who go back to the operating room within 30 days for a follow-up procedure based on the pathology results from the index or concurrent procedure. Examples: Exclude breast biopsies which return for re-excisions; insertion of port-a-caths for chemotherapy. | Yes; No | NULL = No Response Variable added in 2011 |



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